Newcastle University PhD Studentship award

**Title**
PhD in Physics – Ghost Matter

**Value of award**
100% of UK/EU tuition fees plus an annual tax-free stipend of £14,777 (at 2019/20 rate)

**Number of awards**
1

**Start date and duration**
September 2019 for 3.5 years

**Application closing date**
31st January 2019

**Overview**
The School of Maths, Statistics and Physics at Newcastle University invites applications for a fully funded PhD studentship [EU/UK].

The successful candidate will develop their research topic in state-of-the-art research laboratories with a team of supervisors that are expert in their respective research fields.

This year, the Nobel Prize in Physics was won by Arthur Ashkin for his work in optical tweezers and their application. The technique uses the gentle pressure of light to trap and pull a microscopic sphere into the centre of a laser beam – a tractor beam. The technology is now readily used in a multitude of applications, such as cell biology, microchemistry, and laser-cooling.

In this project, the successful student will experimentally test a new advancement to revolutionize this technique by developing a process that permits light to move solid matter through solid matter. The technique will be used to test a century old physics debate – the *Abraham–Minkowski controversy*.

More details about the skills that the successful candidate will acquire during the PhD programme are available at this link [here](#).

**Sponsor**
Name of supervisor(s)

Dr Noel Healy, Dr Toni Carruthers and Dr Fabio Cucinotta.

Eligibility Criteria

You must have, or expect to achieve, at least a 2:1 honours degree or international equivalent, in Physics, or a related subject such as Chemistry or Engineering. The studentships are open to applicants satisfying EPSRC home/UK or EU fee criteria, and are eligible for home fees. EU candidates may only be available for a partial award.

English language skills (if English is not your native language): an overall score of IELTS 6.5 or equivalent, with individual scores of 6.0 in each of the four sub-skills: writing, reading, speaking and listening.

How to apply

You must apply through the University's online postgraduate application system. To do this please 'Create a new account'.

All relevant fields should be completed, but fields marked with a red asterisk must to be completed. The following information will help us to process your application:

- insert the programme code 8821F in the programme of study section
- select PhD Physics (FT) as the programme of study
- insert the studentship code MSP014 in the studentship/partnership reference field
- attach a covering letter and CV. The covering letter must state the title of the studentship, quote reference code MSP014 and state how your interests and experience relate to the project
- attach degree transcripts and certificates and, if English is not your first language, a copy of your English language qualifications.

Contact

For any question, contact
Dr Noel Healy, Senior Lecturer in Physics.
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